

CONFIDENTIAL:
Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

* Sp. Gr. specification = 1.300 - 1.320

SL 013932

	CONFIDENTIAL	
Subject to Protection		
of 14th Judicial District Court		
No. 91-1145		

LABORATORY OPERATIONS REPORT

TRI-ETHANE (II)	1980 AVG.	JAN 29	FEB. 32	MAR. 29	APR. 30	MAY 32	JUNE 29	JULY 30	AUG. 30	SEP. 31	OCT. 29	NOV. 33	DEC. 31	1981 AVG.
EDC MAKE-UP														
H ₂ O ppm	43	41	42	32	40	48	62	58	59	47	55	30	46	47
Fe ppm	0.40	0.30	0.13	0.24	0.08	0.18	0.29	0.16	0.15	0.62	0.25	0.46	0.29	0.26
(GC Analysis - ppm)														
1,2-Dichloroethane Wt. %	97.15	98.27	98.19	98.40	97.17	98.19	97.41	97.16	96.39	97.09	97.41	98.05	97.65	97.62
Trichloroethylene	930	846	899	298	420	790	443	1794	746	623	491	107	248	642
1,1,2-Trichloroethane	17542	15496	15987	14579	26282	17802	22315	23605	31977	25591	22790	18140	24474	21587
U-Tetrachloroethane	26	10	58	25	33	45	53	8	0	3	5	0	(1	20
FURNACE FEED														
H ₂ O ppm	49	50	44	51	56	60	70	51	66	59	62	33	45	54
Cl ₂ ppm	15.68	6.77	7.18	5.49	4.18	13.7	15.9	18.4	5.0	10.7	9.9	9.2	15.2	10.1
Fe ppm				0.59	0.61	1.21	1.99	2.45	1.86	3.23	0.68	1.03	1.29	1.49
(GC Analysis - ppm)														
Chloroprene	47	38	74	72	149	53	34	95	99	39	82	13	21	64
Chloroform	647	114	238	74	11	159	148	0	0	17	47	39	14	72
1,2-Dichloroethane Wt. %	99.25	99.23	99.00	99.37	98.96	99.43	99.43	98.65	99.24	99.34	94.95	99.84	99.79	91.49
Carbon Tetrachloride	504	0	454	(1	0	18	29	0	20	16	43	32	0	51
Trichloroethylene	4736	4633	5625	1774	2811	3772	4150	12965	6039	5216	3337	539	1033	4325
1,1,2-Trichloroethane	142	222	291	271	3134	22	26	17	74	3	8	93	14	348
HEAVY STILL FEED														
H ₂ O ppm	57	70	57	42	63	62	71	54	74	69	60	43	65	61
Fe ppm	3.4	2.5	1.9	2.6	1.1	6.1	1.6	1.4	1.4	1.7	4.9	2.6	3.5	2.6
(GC Analysis - ppm)														
1,2-Dichloroethane Wt. %	97.91	98.38	97.80	98.07	97.79	98.19	97.96	97.06	96.60	98.08	98.10	98.06	98.68	97.90
Trichloroethylene	5065	4653	5560	1843	1835	3285	4369	13360	7268	6033	3822	526	1153	6976
1,1,2-Trichloroethane	12177	6931	10107	10601	14216	10377	11088	11898	21700	13629	12397	15538	8396	12240
U-Tetrachloroethane	23	1	106	88	62	-	2	90	2	13	22	15	13	38
HEAVY STILL BOTTOM														
Fe ppm	59	30	38	36	146	63	62	60	41	87	34	48	17	55
(GC Analysis - Wt. %)														
1,2-Dichloroethane	58.77	70.98	61.85	43.67	70.60	44.68	40.37	42.40	32.24	36.21	28.59	61.36	46.12	48.26
1,1,2-Trichloroethane	29.40	20.64	27.24	35.63	25.20	42.49	44.47	43.14	50.72	47.58	51.13	30.78	41.52	38.38
Heavies *	1.55	3.12	4.44	4.80	1.28	12.7	15.3	12.3	2.5	15.5	19.2	7.3	9.9	3.40

CONFIDENTIAL

*Includes: Tetras, Penta, Hexa and Unidentified.

Subject to Protective Order
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PPG INDUSTRIES
 CHEMICAL DIVISION
 LAKE CHARLES, LOUISIANA
 LABORATORY OPERATIONS REPORT

CONFIDENTIAL:
 Subject to Protective Order
 of 14th Judicial District Court
 No. 91-1145

TRI-ETHANE ⑩ II	1980 AVG.	JAN 29	FEB. 32	MAR. 29	APR. 30	MAY 32	JUNE 29	JULY 30	AUG. 30	SEP. 31	OCT. 29	NOV. 33	DEC. 31	1981 AVG.
RECYCLE STILL BOTTOMS														
H ₂ O ppm	59	53	59	49	54	53	59	63	68	57	54	38	54	55
Fe ppm	6.06	5.65	3.35	2.55	41.34	2.31	1.20	1.68	1.30	1.17	1.33	4.69	3.57	5.85
AF-109C ppm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(GC Analysis - Wt. %)														
1,1-Dichloroethane	0.83	(0.01	(0.01	(0.01	0.13	(0.01	0.01	0.01	0.01	(0.01	0.02	0.07	(0.01	0.02
Methyl Chloroform	44.87	42.06	44.08	44.11	54.62	44.53	47.88	45.88	45.46	47.61	49.46	49.18	46.65	46.79
1,2-Dichloroethane	(0.01	0	0	0	0	(.01	0	0	(0.01	0	0	0	0	(0.01
1,1,2-Trichloroethane	30.37	30.79	29.77	30.74	22.23	27.56	26.21	28.36	26.22	26.86	27.32	27.31	29.02	27.70
U-Tetrachloroethane	13.66	14.60	14.07	13.66	11.29	14.67	13.74	13.71	14.90	13.64	12.59	12.72	13.45	13.59
S-Tetrachloroethane	8.00	8.41	8.11	7.02	7.33	8.30	7.87	8.03	8.41	7.83	7.33	7.34	7.82	7.82
Pentachloroethane	2.94	3.74	3.61	3.29	3.20	4.25	3.89	3.62	4.46	3.68	3.12	3.21	3.34	3.62
Hexachloroethane	0.13	0.20	0.17	0.14	0.19	0.26	0.22	0.19	0.27	0.19	0.14	0.15	0.15	0.19
MC PRODUCT STILL BOTTOMS														
H ₂ O ppm	52	41	48	44	51	42	62	56	48	37	53	38	46	47
Fe ppm	10.57	9.81	6.57	4.79	94.32	11.60	5.27	11.52	1.76	2.11	12.65	4.94	9.32	14.56
AF-109C ppm	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(GC Analysis - Wt. %)														
Methyl Chloroform	1.10	0.70	0.69	0.60	4.73	1.19	0.84	0.92	0.44	2.41	2.63	2.04	0.96	1.51
1,2-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	53.16	52.59	52.68	54.60	46.24	53.52	48.89	51.89	48.55	49.94	51.72	53.60	52.35	51.38
U-Tetrachloroethane	24.61	25.03	25.10	24.30	23.45	26.40	26.26	25.04	26.92	25.31	24.29	23.95	24.82	25.07
S-Tetrachloroethane	14.48	14.39	14.49	14.11	15.33	14.93	15.10	14.67	15.22	14.58	14.18	14.00	14.28	14.61
Pentachloroethane	5.24	6.50	6.40	5.89	6.71	7.82	7.57	6.63	7.89	6.85	6.16	5.82	6.37	6.72
Hexachloroethane	0.23	0.35	0.33	0.26	0.54	0.49	0.46	0.36	0.46	0.35	0.33	0.28	0.32	0.38
MC PRODUCT STILL REFLUX														
H ₂ O ppm	51	-	-	-	-	-	-	-	-	-	-	-	63	63
Fe ppm	4.52	-	-	-	-	-	-	-	-	-	-	-	-	-
(GC Analysis - Wt. %)														
Vinylidene Chloride	0.07	-	-	(0.01	-	-	-	-	-	-	-	-	0.02	0.01
1,1 Dichloroethane	(0.01	-	-	2.21	-	-	-	-	-	-	-	-	0.01	1.11
Methyl Chloroform	97.12	-	-	97.68	-	-	-	-	-	-	-	-	98.35	98.02
1,1,2-Trichloroethane	(0.01	-	-	-	-	-	-	-	-	-	-	-	(0.01	(0.01

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Page 209-1

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* Cl₂/C only Ⓢ Cl₂/C only to OHC II

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
TRI-ETHANE® II OPERATIONS

CONFIDENTIAL:

Subject to Protective Order
of 14th Judicial District Court
No. 91-1145

Page 209-2

GENERAL	1980 AVG.	JAN 29	FEB. 32	MAR. 29	* APR. 30	MAY 32	JUNE 29	JULY 30	AUG. 30	SEP. 31	OCT. 29	NOV. 33	DEC. 31	1981 AVG.
Man Hours/T MC Prod.														
Production	0.182	0.280	0.130	-	-	-	-	-	-	-	-	-	-	0.205
Salaried	0.190	0.138	0.147	-	-	-	-	-	-	-	-	-	-	0.143
Man Hours/T Tri-Ethane®														
Shipped														
Bulk	0.048	-	-	-	-	-	-	-	-	-	-	-	-	-
Drum	1.493	-	-	-	-	-	-	-	-	-	-	-	-	-
Salaried	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Steam (140# Basis) #/T MC	5652	5776	5742	6331	46943	5379	4665	5152	5001	4367	4378	4731	5206	5157
Power KWH/T MC	162.6	110.1	114.2	132.7	1774.0	96.2	84.6	122.5	107.2	129.6	75.6	135.4	85.8	108.5
Natural Gas MSCF/T MC	4.3	4.5	4.6	5.1	22.1	4.0	3.8	3.8	3.0	2.8	2.9	2.6	2.5	3.6
Well Water MGAL/T MC	0.8	0.5	0.4	0.8	13.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
AIBN #/T MC	2.10	4.65	4.08	2.45	22.1	2.76	1.99	2.36	2.64	1.41	2.96	3.49	5.89	3.15
Ferric Chloride #/T MC	2.81	2.74	4.6	4.4	8.1	7.2	5.5	6.00	3.82	3.04	3.36	304	1.53	4.11
Nitrogen T/T MC	0.13	0.10	0.08	0.09	3.05	0.14	0.11	0.15	0.16	0.11	0.12	0.31	0.15	0.14
YIELDS														
Unit Pdn. Basis + Trans.														
Cl ₂	97.7	100.6	100.2	99.5	99.4	99.5	98.8	99.7	98.2	98.7	98.7	98.8	98.2	99.2
C	95.1	99.4	100.6	98.1	95.0	96.5	96.5	98.5	96.3	95.9	96.6	98.1	95.4	97.4
Record Pdn. Basis + Trans.														
Cl ₂	96.8	99.4	100.3	97.4	99.3	99.1	97.6	99.9	98.0	97.5	97.3	97.8	99.1	98.6
C	93.9	98.1	100.8	95.9	95.0	96.0	95.0	98.7	96.0	94.4	94.8	96.8	96.7	96.7
SL 013937														

*Unit was down most of the month. (Values not included in 1981 AVG.)

PPG INDUSTRIES

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
TRI-ETHANE II OPERATIONS

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No. 91-1145

Page 209-3

PROCESS CONDITIONS	1980 AVG.	JAN 29	FEB. 32	MAR. 29	APR. 30	MAY 32	JUNE 29	JULY 30	AUG. 30	SEP. 31	OCT. 29	NOV. 33	DEC. 31	1981 AVG.
Furnace Data														
Conversion %														
Natural Gas SCFH	46373	49526	50356	52586	39048	46632	51691	47400	33963	39657	46512	40326	34951	44387
Feed Flow														
#1 Pass GPM	61	64	63	65	52	59	65	57	48	51	56	51	45	56
#2 Pass GPM	61	63	63	65	51	59	64	57	44	51	56	52	45	56
Inlet Pressure														
#1 Pass Psig	220	216	218	228	206	216	242	236	193	226	246	216	203	221
#2 Pass Psig	223	219	222	233	206	217	244	240	200	232	251	223	216	225
Outlet Temp.														
#1 Pass °F	927	939	959	966	937	918	950	905	851	951	957	930	888	929
#2 Pass °F	908	936	960	964	936	910	950	891	768	855	857	896	818	895
Outlet Pressure														
#1 Pass Psig	155	152	156	158	151	156	137	0	148	170	178	162	159	144
#2 Pass Psig	153	153	157	161	152	155	179	142	151	176	178	173	169	162
Bridgwall Temp. °F	1216	1223	1222	1274	1129	1183	1179	1219	1123	1158	1194	1228	1108	1187
VC-HCL STILL														
Liquid Feed Flow GPM	77	63	60	76	69	79	82	64	49	79	54	71	94	70
Vapor Feed Flow SCFH	264715	346924	366034	325236	55550	274900	315967	285419	159800	183965	271510	203356	138755	243951
Vapor Outlet Temp. °F	109	107	107	105	108	112	121	124	117	112	111	114	118	113
Bottom Temp. °F	363	363	363	363	359	362	370	367	353	374	373	372	381	366
Top Pressure Psig	138	136	136	136	139	138	149	146	145	154	152	150	162	145
HEAVIES STILL														
Feed Flow GPM	68	74	76	77	58	68	77	69	52	58	66	64	52	66
Vapor Outlet Temp. °F	202	200	200	201	199	203	207	200	197	197	197	196	196	199
Bottom Temp. °F	252	254	258	268	248	256	267	255	251	259	262	246	254	257
DCE REACTOR														
VC-HCl Feed SCFH	222220	191576	191791	179472	114225	237200	265021	233014	217700	258110	312341	271728	218075	224188
Make-up HCl Feed SCFH	2037	2050	1493	1868	1359	642	-	1232	1490	1024	1077	547	1042	1257
Aux. HCl Feed SCFH	901	0	0	0	0	0	0	40693	14588	7	0	0	0	4607
VC Feed GPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Temp. (Middle) °F	140	136	138	138	138	140	140	138	137	140	141	140	141	139
Vent Flow SCFH	3164	2100	1952	1413	1505	1336	1110	2636	3136	3149	3307	2744	1437	2152
Top Pressure Psig	44	44	44	44	43	41	34	32	36	38	39	38	36	39

SL 013938

CHEMICAL DIVISION
LAKE CHARLES, LOUISIANA
TRI-ETHANE® II OPERATIONS

TRI-ETHANE (R) II OPERATIONS

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